### EXPLANATION

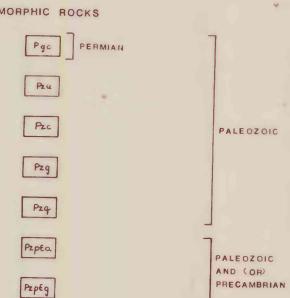
GEOLOGY GENERALIZED FROM WEBER AND OTHERS (1978)

#### CORRELATION OF MAP UNITS

### UNCONSOLIDATED DEPOSITS



## METAMORPHIC ROCKS



# DESCRIPTION OF MAP UNITS

### UNCONSOLIDATED DEPOSITS

Gac ALLUVIUM. COLLUVIUM. AND MINOR GLACIAL AND EOLIAN DEPOSITS

Caf ALLUVIAL FAN AND GLACIAL OUTWASH DEPOSITS Qd DUNE SAND

# Qm MORAINAL DEPOSITS

SEDIMENTARY ROCKS The NENANA GRAVEL AND COAL-BEARING FORMATION

Td DETRITAL ROCKS

#### IGNEOUS ROCKS Tg FELSIC TUFF AND LAVA

Tf GRANITE AND QUARTZ MONZONITE

TMZq UNDIVIDED GRANITIC AND DIORITIC ROCKS

Kg UNDIVIDED GRANITIC AND MINOR DIORITIC ROCKS

#### METAMORPHIC ROCKS Pgc GREENSTONE AND CHERT

Pzu ULTRAMAFIC ROCKS

PLC CATACLASTIC SCHIST AND GNEISS

GREENSCHIST. QUARTZITE, MARBLE, COARSE META- ARENITE GREENSTONE, AND META-TUFF

Pag QUARTZITE, SLATE, CALC-PHYLLITE, AND MARBLE

AUGEN GNEISS AND MINOR AMOUNTS OF OTHER GNEISSIC ROCKS P.p€g GNEISS, SCHIST, AUGEN GNEISS, AMPHIBOLITE, AND MARBLE

### GEOLOGIC SYMBOLS

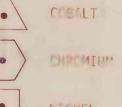
CONTACT, APPROXIMATELY LOCATED

FAULT OR PROBABLE FAULT, DOTTED WHERE CONCEALED

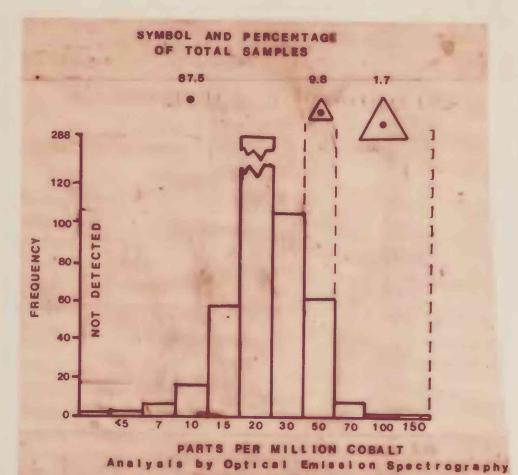
## GEOCHEMICAL SYMBOLS

• SAMPLE SITE--Represents background values at sites where there are no anomalous values

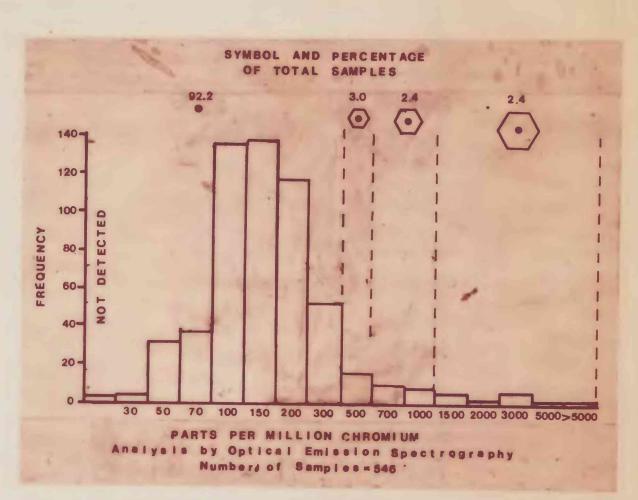
ANOMALOUS VALUES--Explained on histograms

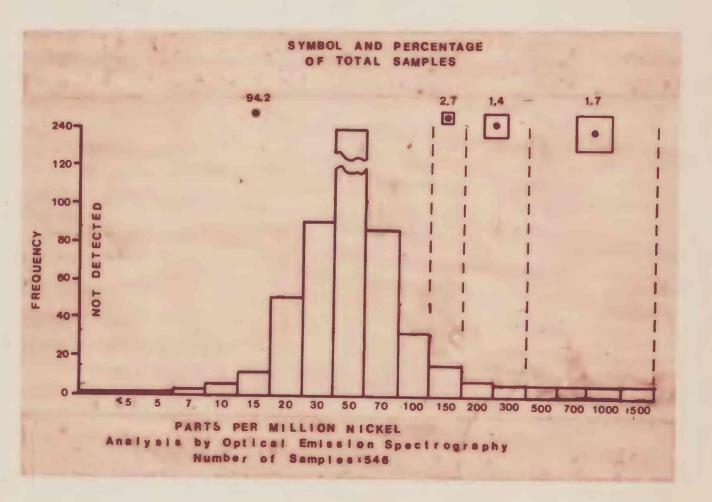


BACKGROUND INFORMATION RELATING TO THIS MAP IS PUBLISHED AS U.S. GEOLOGICAL SURVEY CIRCULAR 783 AVAILABLE FREE OF CHARGE FROM THE U.S. GEOLOGICAL SURVEY, RESTON, VA. 22092



Number of Samples : 546





## DISCUSSION

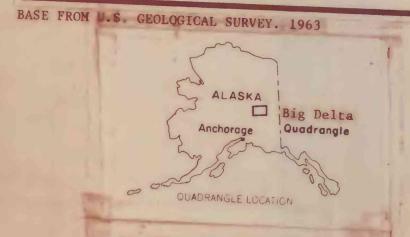
This map shows the distribution and abundance of cobalt, chromium, and nickel in 546 stream-sediment samples collected in the Big Delta quadrangle in 1975 and 1977. This sampling was a part of geochemical studies made for the Alaska Mineral Resource Assessment Program. Stream sediments were collected from the active channels of streams draining areas ranging from approximately 10 to 25 km². The areas within the quadrangle that show a low density of sample sites, particularly along the major northeast-trending fault and in the northwestern part of the quadrangle, were areas where dense brush and trees prevented helicopter landings. Areas in the southwestern and south-central parts of the quadrangle were not sampled because they are covered by thick unconsolidated deposits of Quaternary material, which limits effective geochemical sampling within the scope of the present geochemical studies.

The stream sediments were air-dried and sieved through an 80 mesh (0.2 mm) screen. A split of the -80 mesh material was analyzed for cobalt, chromium, and nickel by semiquantitative emission spectrography (Grimes and Marranzino, 1968). Map plots and histograms were produced from the analytical results. The range of anomalous values for each element was determined from the histograms and was subdivided into two or more plotting intervals represented by the symbols on the map and histograms.

Complete analytical data for all of the sample sites shown on this map are available in a U.S. Geological Survey Open-File Report by R. M. O'Leary and others (1978).

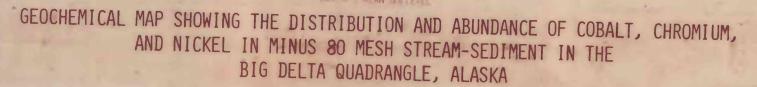
## REFERENCES CITED

- Grimes, D. J., and Marranzino, A. P., 1968, Direct-current arc and alternating-current spark emission spectrographic field methods for the semiquantitative analysis of geologic materials: U.S. Geological Survey Circular 591, 6 p.
- O'Leary, R. M., Cooley, E. F., Day, G. W., Hessin, T. D., McDougal, C. M., and McDanal, S. K., 1978, Spectrographic and chemical analyses of geochemical samples from the Big Delta quadrangle, Alaska: U.S. Geological Survey Open-File Report 78-571, 127 p.
- Weber, F. R., Foster, H. D., Keith, T. E. C., and Dusel-Bacon, Cynthia, 1978, Preliminary geologic map of the Big Delta quadrangle, Alaska: U.S. Geological Survey Open-File Report 78-529A, scale 1:250,000.



DEPARTMENT OF INTERIOR

UNITED STATES GEOLOGICAL SURVEY



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